

REMARKS

Claims 1-4, 7-14 and 17-19 are pending in the application. Claims 1-4, 7-14 and 17-19 were rejected in the office action.

Claim Rejections Under 35 U.S.C. § 103

Claims 1-4, 7-9, 11-14 and 17-18

Claims 1-4, 7-9, 11-14 and 17-18 were rejected under 35 U.S.C. 103(a) as being unpatentable over US 3,636,452 to Nuding (hereinafter "Nuding") in view of US 4,211,894 to Watanabe (hereinafter "Watanabe") further in view of US 3,931,575 to Amoroso, Jr (hereinafter "Amoroso") for the reasons stated on pages 2-9 of the Office Action.

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing that all elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

Claim 1 recites a system for coupling a base station transmitter and a base station receiver to an antenna for a CMRS system, comprising a bandpass filter, coupled between the antenna and the receive path, for passing receive signals within a predetermined frequency range from the antenna circulator to the receive path while preventing the passage of transmit signals from the circulator to the receive path; and an isolator, coupled between the antenna and the transmit path, for passing transmit signals to the antenna circulator from the transmit path while preventing the passage of receive signals from the antenna to the transmit path.

Nuding discloses a radio relay system in which transmitters (Sn in Fig. 1) and receivers (En) are fed to an antenna (A) through a system combining filter (S). The system combining filter (S) has four ports connected to the antenna (A) and bandpass

filters BP2, BP3 and BP4. The bandpass filters BP2 and BP4 are connected to a common transmitting line (10) and a common receiving line (11) and tuned to the frequency band of the radio relay system. That is, the bandpass filters BP2 and BP4 simply pass a predetermined frequency of the system to the common transmitting and receiving lines (10 and 11). Although Nuding discloses that the system-combining filter (S) should exhibit decoupling in order to prevent interfering frequencies from the transmitters of the system from being coupled to the receivers (col. 3, ll. 23-26), Nuding does not teach or suggest how to perform the decoupling.

Thus, Nuding neither teaches nor suggests the elements: a bandpass filter, coupled between the antenna and the receive path, for passing receive signals within a predetermined frequency range from the antenna circulator to the receive path while preventing the passage of transmit signals from the circulator to the receive path; and an isolator, coupled between the antenna and the transmit path, for passing transmit signals to the antenna circulator from the transmit path while preventing the passage of receive signals from the antenna to the transmit path, as claimed in claim 1.

Watanabe discloses a transmitter multiplexing system for a land mobile communication system. Watanabe focuses on a transmitter multiplexing system capable of eliminating the variation in transmission output even when the transmission frequency of a transmitter is switched to another transmission frequency within the frequency band assigned to the land mobile communication system. Coupling of one or more transmitters and receivers of a base station to an antenna cannot be found in Watanabe.

Thus, Watanabe neither teaches nor suggests the elements: a bandpass filter, coupled between the antenna and the receive path, for passing receive signals within a predetermined frequency range from the antenna circulator to the receive path while preventing the passage of transmit signals from the circulator to the receive path; and an isolator, coupled between the antenna and the transmit path, for passing transmit signals to the antenna circulator from the transmit path while preventing the passage of receive signals from the antenna to the transmit path, as claimed in claim 1.

Amoroso discloses a transceiver adapted for use as either a master or a slave in a duplex pair. An isolator (110 in Fig. 1), in Amoroso, is coupled between an oscillator (14) and an orthomode transducer (20), and prevents the reflected waves of the signals

outputted from the oscillator (14), as resulted by impedance mismatching, from feeding back to the oscillator (14). That is, the isolator (110) does not prevent a receive signal from passing from an antenna to a transmit path, but prevent the reflected waves of the oscillator (14) from feeding back to the oscillator (14). Further, the receive signal from an antenna (22) is coupled to the orthomode transducer (20) and provided to a waveguide (26a). That is, the receive signal is coupled to the waveguide (26a) by the orthomode transducer (20) regardless of the isolator (110). Thus, Amoroso neither teaches nor suggests the element: an isolator, coupled between the antenna and the transmit path, for passing transmit signals to the antenna circulator from the transmit path while preventing the passage of receive signals from the antenna to the transmit path, as claimed in claim 1.

Further, Amoroso neither teaches nor suggests the element: a bandpass filter, coupled between the antenna and the receive path, for passing receive signals within a predetermined frequency range from the antenna circulator to the receive path while preventing the passage of transmit signals from the circulator to the receive path, as claimed in claim 1.

Even if Nuding is combined with the transmitter multiplexing system of Watanabe and the transceiver of Amoroso, the combination does not render obvious claim 1 because the combination does not teach or suggest all the elements of claim 1.

Further, as described above, the radio relay system of Nuding is different from the transmitter multiplexing system of Watanabe and the transceiver of Amoroso. For example, the radio relay system of Nuding employs a single antenna, while the transmitter multiplexing system of Watanabe employs a plurality of antenna; and the radio relay system of Nuding employs a plurality of transmitters and a plurality of receivers, while the transceiver of Amoroso employs one transmitter and one receiver. Thus, there is no motivation to combine the radio relay system of Nuding with the transmitter multiplexing system of Watanabe and the transceiver of Amoroso to arrive at the invention of claim 1.

Thus, claim 1 is believed to be patentable over Nuding in view of Watanabe and Amoroso. Claims 2-4, 7-9 and 11 depend from claim 1, thus include all limitations of claim 1. Thus, claims 2-4, 7-9 and 11 are believed to be allowable due to their dependency on claim 1.

Claim 12 recites a method for coupling a base station transmitter and a base station receiver to an antenna for a CMRS system, comprising at the receive path, passing receive signals to the receive path from the antenna while preventing passage of transmit signals to the receive path; and at the transmit path, passing transmit signals to the antenna from the transmit path while preventing passage of receive signals to the transmit path.

Claim 13 recites a system for coupling a base station transmitter and a base station receiver to an antenna for a CMRS system, comprising: a bandpass filter, coupled between the antenna and the receive path, for passing receive signals within a predetermined frequency range from the antenna circulator to the receive path while preventing the passage of transmit signals from the transmit path; and an isolator, coupled between the antenna and the transmit path, for passing transmit signals to the antenna circulator from the transmit path while preventing the passage of receive signal from the antenna to the transmit path.

Claims 12 and 13 are believed to be allowable for at least the reasons given for claim 1. Claims 14, 17 and 18 depend from claim 13, thus these claims are believed to be allowable due to their dependency on claim 13.

Claims 10 and 19

Claims 10 and 19 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nuding in view of Watanabe further in view of Amoroso and further in view of US 6,314,305 to Solondz (hereinafter "Solondz") for the reasons stated on pages 9-10 of the Office Action.

Solondz discloses a cellular communications base station. Solondz neither teaches nor suggests the elements: a bandpass filter, coupled between the antenna and the receive path, for passing receive signals within a predetermined frequency range from the antenna circulator to the receive path while preventing the passage of transmit signals from the circulator to the receive path; and an isolator, coupled between the antenna and the transmit path, for passing transmit signals to the antenna circulator from the transmit path while preventing the passage of receive signals from the antenna to the transmit path, as claimed in claim 1. Thus, Solondz does not cure the deficiency of Nuding, Watanabe and Amoroso. Accordingly, the combination of Nuding, Watanabe, Amoroso

and Solondz does not render obvious claim 10. Claim 10 depends from claim 1, thus claim 10 is believed to be allowable due to its dependency on claim 1.

Claim 13 is believed to be allowable for at least the reasons given for claim 1. Claim 19 depends from claim 13, thus claim 19 is believed to be allowable due to its dependency on claim 13.

Conclusion

In view of the foregoing remarks and amendments, Applicant submits that the above-identified application is now in condition for allowance. Early notification to this effect is respectfully requested.

If there are any charges with respect to this response or otherwise, please charge them to Deposit Account 06-1130 maintained by Applicant's attorneys.

Respectfully submitted,

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